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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/500,254	02/08/2000	Hans Jurgen Mattausch	4853-000001	2313

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EXAMINER

PORTKA, GARY J

ART UNIT PAPER NUMBER

2187

DATE MAILED: 01/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

H.G.

Office Action Summary

Application No.
09/500,254

Applicant(s)

Mattausch

Examiner
Gary J. Portka

Art Unit
2187



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 8, 2000
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3 20) ☐ Other:

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DETAILED ACTION

1. The Office acknowledges receipt of the following:
 - a. Signed Declaration, dated July 3, 2000.
2. Claims 1-5 are presented for examination.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure submitted June 12, 2000 (paper no. 3) was considered. It is noted that "Translation" should be checked "Yes" only if the entire document has been translated.

Specification

5. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. The disclosure is objected to because of the following informalities:
 - a. Claim 1 is objected to at line 4 of the claim, at "at least one copybus to be connected to said at least one port with the copybus-function"; since there are a plurality of ports (a plurality of memories each have at least such one port as recited), should this state "connected to each of said at least one ports", or similarly? Additionally, the language "to be connected" seems inaccurate; for

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the copying to occur as recited the copybus would have to be connected, and thus the words "to be" should probably be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 and 3/1 are rejected under 35 U.S.C. 102(e) as anticipated by Hubis, U.S. Patent 6,321,298 B1 (hereinafter "Hubis") or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hubis in view of Gujral et al., U.S. Patent 6,223,260 B1 (hereinafter "Gujral"), or alternatively over Hubis in view of Hamaguchi et al., U.S. Patent 6,021,472 (hereinafter "Hamaguchi").

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10. As to claim 1, Hubis discloses the recited shared memory comprising: plurality of memories (202, Figure 3) accessible from a copybus side and a user side (host), at least one copybus (backend bus 110, Figure 3), the shared memory adapted to copy contents of one of the memories which has been changed by writing from the user side, to other memories through the copybus (see Abstract, column 2 lines 6-15). Hubis may be seen as having the recited ports connected respectively to user and copybus sides, since as shown in Figures 1 and 3, the controllers 104x may be considered a part of the memories, and the controllers are shown to have separate interfaces to the host side and the backend bus side.

Alternatively, it might be argued that the controllers are not a part of the memories, and thus that Hubis does not disclose that the memories are multiport having at least one port connected to each of the user side and the copybus side. However, the use of multiport caches in such a configuration is well known in the art, and is taught by Gujral (see Figure 1, column 2 lines 46-50 and column 4 lines 32-35), and by Hamaguchi (see Figures 1 and 2). Note in particular the cache memories 11 and 16 of Hamaguchi are depicted as comprising controllers, and separate interfaces at the top and bottom of Figure 2. An artisan would have been familiar with the well known advantages of improved performance of a multiport cache resulting from reduced contention and higher degree of parallel processing, and thus would have recognized the benefits of making the memories of Hubis multiport with at least one port connected to each of user and copybus sides. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use multiport memories having at least one port connected to each of the user side and the copybus side, because this was

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taught by Gujral and Hamaguchi, and was a well known means of improving performance due to increased degree of parallel processing.

11. As to claim 3/1, Hubis discloses the memories are formed by an integrated circuit technique (see column 3 lines 15-20, where semiconductor RAM is considered as formed by an integrated circuit technique).

12. Claims 2, 3/2, and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubis in view of Gujral, and further in view of Hirose, JP Patent 61-3450 (A) (hereinafter "Hirose"), or alternatively over Hubis in view of Hamaguchi, and further in view of Hirose.

13. As to claims 2, 3/2, and 5, neither Hubis, Gujral, nor Hamaguchi disclose copying optically. However, the technique was well known in the art and was taught by Hirose. The device of Hirose is taught to improve signal transmission speed in a shared memory, and clearly invokes the trend of reducing cost and improving performance by increasing integration as compared to the other references. The device is formed by a three dimensional integrated circuit technique. Thus it would have been obvious to one of ordinary skill in the art to copy optically with a three dimensional integrated circuit device, because such a device and method was previously taught by Hirose as improving performance.

14. As to claim 4, while Hirose teaches a three dimensional integrated device, an artisan would have known that older two dimensional devices were still applicable, and would have desired such a device for the purposes of reducing cost, or for compatibility with existing manufacturing facilities and/or interfacing circuits. Thus it would have been obvious to use a two dimensional integrated

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circuit technique, because this is well known as a cheaper manufacturing alternative, and may improve compatibility requirements.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No.

6,205,523 B1	Multiple multiport memories connected to different busses.
6,148,375	Bus directly interconnecting caches of different nodes.
5,802,561	Simultaneous mirror write caches.
5,469,549	Asynchronous communication between shared memories via separate channels.

16. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in Abandonment of the application (see 35 USC 133, MPEP 710.02, 710.02(b)).

17. Any inquiry concerning this communication from the examiner should be directed to Gary J. Portka at telephone number (703) 305-4033. The examiner can normally be reached on weekdays from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Do Yoo, can be reached at (703) 308-4908.

Any response to this action should be mailed to (or faxed as provided below):

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

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Arlington. VA., Fourth Floor (Receptionist).

The fax phone number for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238 (After Final communications)

(703) 746-7239 (Official communications)

(703) 746-7240 (Status inquiries, draft communications)

Any inquiry of a general nature relating to this application or proceeding should be directed to the Group receptionist, whose telephone number is (703) 305-3900.

Gary J. Portka
Patent Examiner
January 22, 2002

A handwritten signature in cursive script, reading "Gary J. Portka".